# FORECASTING USING PROJECTIONS

Help clients make changes that can positively impact their financial condition





## Course Agenda

#### Running a Projection Report

"What If" Scenarios

Loan Analysis

**DCF** Valuation

**Best Practices & Reporting** 



Ability to perform quick "what-if" scenario analysis for consulting engagements



Calculate thumbnail Discounted Cash Flow Valuations



Produce a projected, narrative analysis describing where the business will be



Forecast client financials to help plan for the future,



Project cash flow and analyze existing and potential loans

Features and Benefits

### Running a Projection Report Things to Remember

#### Periods of Data

- 1 periodindustry
  - averages
- 2-5 periods
  - regression analysis

### Statement of Equity

- Beginning retained earnings
- Dividends paid/withdrawals

#### **Business Loans**

- Cash flow statement
- Itemize balance sheet debt
- Loan analysis

## What-If Scenarios

#### Before

Projection Contro	l Panel			×	
Projection Type	Projection Dials	Account Projections	Formatting	Log A Purchase	
Sales Grow	rth (Annual)			Industry Averages	12/31/2019
•		Þ	-5 %	17.42%	12 months
Gross Profit	Margin				
4		•	68.77 %	71.44%	\$404,089
Gross Profit					\$126,196
	.1 / 6 13	▶ \$ 2	77,893		\$0
Overhead G	rowth (Annual)		-30.28 %		\$0
Net Profit B	oforo Toxos	_	-30.28 %		\$0
A		► \$	6,541		68.77%
Accounts Re	eceivable Days	¥	0,012		
•	,	•	65.9 days	26.94 days	\$277,893
Accounts Pa	yable Days				
•		•	0 days	16.62 days	\$0
Inventory D	ays				\$0
		•	0 days		\$265,502
	0				\$0
	Star	t Over	Ok		t Charts Valuati
					c charts valuati

#### After

Projection Control Panel				$\times$	
Projection Type Projection Dials	Account Projections	Formatting	Log A Purchase		
Sales Growth (Annual)	Þ	17 %	Industry Averages 17.42%	5	12/31/2019 12 months
Gross Profit Margin		68.77 %	71.44%		\$497,668
overhead Growth (Annual)	• \$ 3	42,246			\$155,422 \$0 \$0
Net Profit Before Taxes		-30.28 % 70,894			\$0 <b>68.77%</b>
Accounts Receivable Days  Accounts Payable Days	•	65.9 days	26.94 days		\$342,246
Inventory Days	•	0 days	16.62 days		\$0 \$0
Star	t Over	Ok			\$265,502 \$0 t Charts Valuati



#### Review Financial Data Marketing Consulting Services / Projection

Home > Reports > Companies > Pick Data > Income Statement > Balance Sheet > Statement of Equity > Business Loans



#### + Add a New Loan

## Loan Analysis

Analyzes historical debt structure

Models future debt and cash flow

Provides key metrics for obtaining financing

Able to itemize Balance Sheet debt to provide accurate cash flow analysis

## Model Future Debt

A manufacturing client has outdated machinery. They want to upgrade their machinery to increase efficiency.

Model the impact on debt structure and cash flow with "Log a Purchase"

Log a Purchase		×
Name: New Equipment	Purchase Type:	Fixed Asset
Amount: \$ 54,000	Purchase Date:	12/31/2019
Purchased With: C	Cash	3
Loan Terms		
Loan Amount: \$ 52,000	Remaining Term (Months):	60
Interest Rate: 8%	Loan Type:	Fixed Payment
Add Purchase	Delete Purc	hase

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Loan Number	Description Senior Debt	Borrower Marketing	Balance \$61,289.00	Payment Amoun \$460.62	t Interest F
		Consulting Services	φ01,200.00	\$400.0Z	0.0070
Step 2					
<ul> <li>Enter the terms of the pro</li> </ul>	pposed loan(s) below: -				
Loa	n Description: Ne	w Loan			er Proposed Loar
Prim	ary Borrower: Ma	arketing Consulting Service	s (Busines: 🔻	Related to	this Refinance
P	ayment Type: Fix	ed Payment	•	- Remove Se	lected Proposed
	Financing: Se	nior Debt	•	Loan fro	m Refinance
Loa	n Amount (\$): 0.0	00		Refinancing Lo	oans:
	Interest Rate: 8.0	0 %		New Loan	
Ren	maining Term: 60				
Paymer	nt Amount (\$): 0.0	00			
Amortiza	ition Days: 🛛 🛛 Act	tual 360	•		
Payme	nt Frequency: Mo	onthly	•		
Compoundir	ng Frequency:	Same as Payment Freque	ency >> 💌		
Refi	nancing Date: 1/3	31/2019			
	Comments:				
	Ref	finance Selected Loan(s)		Cancel	

### REFINANCING

## A client has several outstanding loans. Show how refinancing these loans can:





	Businesses	
EBITDA: 🔽 🗤	(\$93,140)	(\$93,140)
Marketing Consulting Services	(\$93,140)	(\$93,140)
Estimated Debt Service 🕫	\$5,527	\$5,527
Marketing Consulting Services	\$5,527	\$5,527
Discretionary Cash Flow 🕐	(\$98,667)	(\$98,667)
Debt Service Coverage Ratio 🕫		
Marketing Consulting Services		
Interest Coverage Ratio 🕐		
Total Sales (Income) 💿	\$425,357	\$425,357
Gross Profit 🔊	\$288,572	\$288,572
Gross Profit Margin 🕐	67.84%	67.84%
Total Assets 🕐	\$144,711	\$144,711
Marketing Consulting Services	\$144,711	\$144,711
Total Liabilities 🔊	\$71,152	\$71,152
Marketing Consulting Services	\$71,152	\$71,152
Total Equity 🔊	\$73,559	\$73,559
Debt to Equity Ratio 🕫	0.97	0.97

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## DETERMINE KEY METRICS

 Help provide documentation to give a bank if a client is considering refinancing, consolidating, or adding new loans



#### **Succession Planning**

### Management Level Valuation



#### **Discussions with Management**



**Buying and Selling** 



## Valuation: Cash Flow

ish Flow					
	12/21/2010	12/21/2020	12/21/2021	12/21/2022	12/21/202
EBIT	12/31/2019 (\$100,516)	12/31/2020 (\$91,933)	12/31/2021 (\$76,607)	12/31/2022 (\$60,624)	12/31/202 (\$46,476
Less: Taxes	\$0	\$0	\$0	\$0	\$0
⑦ Noncash Expenses	\$0	\$0	\$0	\$0	\$0
② Less: Change in Working Capital	(\$35,348)	(\$18,854)	(\$10,692)	(\$6,063)	(\$3,438
Less: Capital Expenditures	\$0	\$0	\$0	\$0	\$0
Free Cash Flow	(\$65,168)	(\$73,079)	(\$65,915)	(\$54,561)	(\$43,038
Present Value of Cash Flows (End of Year)	(\$58,615)	(\$59,121)	(\$47,963)	(\$35,709)	(\$25,335
Present Value of Cash Flows = Net Free Cash Flow / (1	+ Discount Rate)	^ X where X = Projecte	d Year (1, 2, 3, etc	)	
Discount Rate	=	Risk Free Rate	+	Risk Premium	

1.18%

=

10.00%

+

**Discount Rate** 

11.18%

- **Risk Free Rate**
- **Risk Premium**

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## Valuation: Terminal Value

The terminal value is a rough estimate of what the company will be worth at the end of the projection

#### **Terminal Value**

The terminal value is a rough estimate of what the company will be worth at the end of the projection. It is usually difficult to years, the last projected cash flow is treated as a perpetuity - an endless annual stream of cash flows that will grow at a spec

Terminal Value =(Free Cash Flow (Year 5) \* (1+G)) / (DR - G) \*  $(1 / (1+DR))^5$ Terminal Value =(-43038 \* (1 + 0.03)) / (0.1118 - 0.03) \*  $(1 / (1+0.1118))^5$ Terminal Value =(\$319,009)

#### **Calculation Parameters**

11.18% 🕐
3.00% 💿
(\$43,038)
(\$319,009) 🕐



## Valuation: Preliminary & Final Company Value

#### Valuation

In addition to the discounted cash flows and the terminal value, the valuation also accounts for cash on hand, long term investments, and long term debt. Taking on debt to purchase a company diminishes its value, whereas a company with cash on hand or long term investments will be more highly valued. For example, a company that will neither generate nor lose cash flow in the future (it will just break even indefinitely) would have a cash flow value of zero. However, if that company has \$1 million in cash, the valuation should reflect this. By making these adjustments, a reasonable company value can be determined. If you would like to modify any of these values, please do so by directly changing the amount listed for that variable.

Preliminary Company Value \$5,575,116	=	Discounted Cash Flow \$1,146,497	+ +	Terminal Value \$4,485,580	+ +	⑦ Cash \$4,328	+ +	⑦ Long Term Investments \$0	<ul> <li>Debt</li> <li>\$61,289</li> </ul>
Final Company Value \$4,794,600	=	Preliminary Value * (1 - K) \$5,575,116 * (1 - 0.14)							
Calculation Parameters K (Marketability Discount):	14.0	10%							

### Company Value: \$4,794,600



### Scenario Dashboard

#### **Marketing Consulting Services**

Take a snapshot of a projection and perform a what-if scenario on the current projection using the projection controls.

	Initial 12/31/2019	Current Projection 12/31/2019
Income Statement		<< Take Snapshot
Sales (Income)	\$241,219	\$497,668
Cost of Sales (COGS)	\$75,333	\$155,422
Gross Profit	\$165,886	\$342,246
Overhead or S,G,& A Expenses	\$265,502	\$386,524
EBITDA	(\$100,516)	(\$45,178)
Net Income	(\$105,466)	(\$50,128)
Balance Sheet		
Cash (Bank Funds)	(\$66,367)	(\$8,381)
Total Current Assets	(\$20,013)	\$35,325
Net Fixed Assets	\$58,681	\$58,681
Total Assets	\$38,668	\$94,006
Total Current Liabilities	\$10,489	\$10,489
Total Long Term Liabilities	\$60,085	\$60,085
Total Equity	(\$31,907)	\$23,431
Valuation		
Company Value	(\$587,370)	\$1,747,828
Projection Assumptions		
Sales Growth	-43.29%	17.00%
Overhead Growth	-30.28%	1.50%
Gross Profit Margin	68.77%	68.77%
Accounts Receivable Days	65.9 days	30 days
Accounts Payable Days	0 days	0 days
Inventory Days	0 days	0 days





# Visually aesthetic

Demonstrate before & after scenarios

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	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Liquidity Ratios					
Current Ratio	3.37	3.51	9.52	22.36	43.16
Quick Ratio	3.10	3.24	9.25	22.10	42.90
Working Capital	\$24,835	\$26,461	\$90,269	\$227,747	\$452,339
Financial Leverage / Coverage Ratios					
Total Equity	\$23,431	\$25,736	\$90,281	\$228,557	\$454,01
Debt to Equity Ratio	3.01	2.72	0.77	0.30	0.1
Tangible Net Worth	\$23,431	\$25,736	\$90,281	\$228,557	\$454,015
Debt to Tangible Net Worth Ratio	3.01	2.72	0.77	0.30	0.1
Debt Service	\$5,527	\$5,527	\$5,527	\$5,527	\$5,52
Debt Service Coverage Ratio	-8.17	1.30	12.56	25.89	41.6
Interest Coverage Ratio	-9.13	1.47	14.31	29.86	48.6
Senior Debt to Cash Flow	-1.34	8.34	0.86	0.41	0.2
Debt to Cash Flow	-1.56	9.71	1.00	0.48	0.29
Debt to Capitalization	75.07%	73.10%	43.42%	23.07%	12.98%
Profitability Ratios					
Operating Profit Margin	-8.90%	1.39%	10.32%	18.06%	24.78%
Net Profit Margin	-10.07%	0.40%	9.47%	17.35%	24.18%
Return on Equity	-213.93%	8.96%	71.49%	60.50%	49.66%
Return on Assets	-53.32%	2.41%	40.45%	46.54%	43.219
Activity / Efficiency Ratios					
Accounts Receivable Days	30.00 Days	30.00 Days	30.00 Days	30.00 Days	30.00 Day
Accounts Payable Days	0.00 Days	0.00 Days	0.00 Days	0.00 Days	0.00 Day
Inventory Days	0.00 Days	0.00 Days	0.00 Days	0.00 Days	0.00 Day
Gross Fixed Asset Turnover	8 45	9.89	11 57	13 54	15 &

# FINANCIAL RATIOS

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## PROJECTION CHART



### **Projected Narrative**

#### ⊖ Profits & Profit Margin ●●●●● 18 out of 100

A measure of whether the trends in profit are favorable for the company.

It is good to see the company improve net profitability (in dollars) from the current period. Improving profitability in dollars is always a good goal. However, keep in mind that the net profit margin is projected to remain weak even relative to the industry in which the company competes. The net margin is the total cents of net profitability extracted out of each sales dollar.





 This is an important metric. In fact, over time, it is one of the more important barometers that we look at. It measures how many cents of profit the company is generating for every dollar it sells. Track it carefully against industry competitors.
 Thin is a very important number in preparing forecasts. The higher the better.

one of the This number ind asures how not paid out in ( for every statistic that c mpetitors. Indicates how m casts. The each dollar of

#### ⊖ Profits & Profit Margin ●●●●● 89 out of 100

A measure of whether the trends in profit are favorable for the company.

For the company, net profit margins will improve while sales will improve by 119.24%. The company will generate significantly more revenue than in the current period and manage it better by improving net margins -- an excellent combination. Whatever the company is planning to do seems as if it will work quite well. It looks like the company will be pushing itself acely within its "relevant range" -- the company's operating range for its curring of site situation could also imply that the company **may** be able to push sales an operating the term in the future, which is not always easy to achieve.

Because the company will be a provided and the provided a

#### Charts and Graphs



Gross Profit Margin



This is an important metric. In fact, over time, it is one of the more important barometers that we look at. It measures how many cents of profit the company is generating for every This number indicates the percentage of sales revenue that is not paid out in direct costs (costs of sales). It is an important statistic that can be used in business planning because it

## THANK YOU!

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